

OIL ANALYSIS REPORT

Area Bernardsville **PETERBILT 6677**

Component Diesel Engine

GIBRALTAR 15W/40 SUPER S-3 LX (11)

Recommendation

Resample at the next service interval to monitor.

Wear

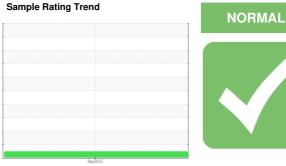
Metal levels are typical for a components first oil change.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.





SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0830898		
Sample Date		Client Info		19 Sep 2023		
Machine Age	hrs	Client Info		4822		
Oil Age	hrs	Client Info		4822		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>110	5		
Chromium	ppm	ASTM D5185m	>4	0		
Nickel	ppm	ASTM D5185m	>2	0		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m	>2	0		
Aluminum	ppm	ASTM D5185m	>25	4		
Lead	ppm	ASTM D5185m	>45	0		
Copper	ppm	ASTM D5185m	>85	<1		
Tin	ppm	ASTM D5185m	>4	<1		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 7	history1	history2
	ppm ppm		limit/base			· · · · · ·
Boron		ASTM D5185m	limit/base	7		
Boron Barium	ppm	ASTM D5185m ASTM D5185m		7 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		7 0 66		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66	7 0 66 <1		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66 1000	7 0 66 <1 802		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66 1000 1050	7 0 66 <1 802 1176	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66 1000 1050 1150	7 0 66 <1 802 1176 1018		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66 1000 1050 1150	7 0 66 <1 802 1176 1018 1232	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 limit/base	7 0 66 <1 802 1176 1018 1232 3698		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 limit/base	7 0 66 <1 802 1176 1018 1232 3698 current		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	66 1000 1050 1150 1270 limit/base >30	7 0 66 <1 802 1176 1018 1232 3698 current 3	 history1 	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	66 1000 1050 1150 1270 limit/base >30	7 0 66 <1 802 1176 1018 1232 3698 current 3 0 7	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 limit/base >30 >20	7 0 66 <1 802 1176 1018 1232 3698 current 3 0 7	 history1 	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 limit/base >30 >20 limit/base	7 0 66 <1 802 1176 1018 1232 3698 current 3 0 7	 history1 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 limit/base >30 >20 limit/base >3	7 0 66 <1 802 1176 1018 1232 3698 <u>current</u> 3 0 7 <u>current</u> 0.2	 history1 history1 history1	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 1270 imit/base >30 >20 imit/base >3 >20	7 0 66 <1 802 1176 1018 1232 3698 <i>current</i> 3 0 7 <i>current</i> 0.2 6.8	 history1 history1 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 imit/base >30 220 imit/base >3 >20 >30	7 0 66 <1 802 1176 1018 1232 3698 <u>current</u> 3 0 7 <u>current</u> 0.2 6.8 18.5	 history1 history1	 history2 history2 history2



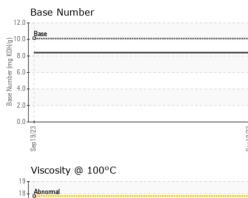
17-() 16 - Base 0015 -³314 -

OIL ANALYSIS REPORT

scalar *Visual

VISUAL

White Metal



	Wille Metal	Scalal	visuai	NONL			
	Yellow Metal	scalar	*Visual	NONE	NONE		
	Precipitate	scalar	*Visual	NONE	NONE		
	Silt		*Visual	NONE	NONE		
	Debris		*Visual	NONE	NONE		
	Sand/Dirt		*Visual	NONE	NONE		
23				NORML	NORML		
Sep 19/23	Appearance		*Visual				
ŝ	Odor		*Visual	NORML	NORML		
	Emulsified Water		*Visual	>0.2	NEG		
	Free Water	scalar	*Visual		NEG		
	FLUID PROPERT	TIES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	15.5	14.4		
	GRAPHS						
r in	Ferrous Alloys						
	10 iron						
	8						
	nickel						
	6-						
	4						
	2-						
	0	*****	******				
	Sep 19/23			Sep 19/23			
	Sep			Sep			
	Non-ferrous Meta	ls					
	10 copper						
	8 -						
	ensesses tin						
	6-						
	E dd						
	4						
	2						
				3			
	Sep 19/23			Sep 19/23			
				Se			
	Viscosity @ 100°C	2			Base Numbe	r	
	¹⁹			1	^{2.0} T		
	18 - Abnormal			1	Base	000000000000000000000000000000000000000	
	17-			(B/H	1		
	Base			Base Number (mg KOH/g)	8.0		
	Base 15 14			ier (m	5.0 -		
	3 14			Numb	4.0		
	13 - Abnormal			ase	1.0		
	12				2.0 -		
	11				0.0		
	9/23						
	Sep19/23			Sep 19/23	Sep 19/23		
ory	: WearCheck USA - 5	501 Madiso	on Ave., Ca			STATE WASTE-B	ERNARDSVI
le No.		Received	: 29 \$	Sep 2023			UARRY RC
ber		Diagnose	d : 30 \$	Sep 2023			RDSVILLE,
		Diagnostic		s Davis			US 079
umber	. 100/1002						
umber kage	: FLEET contact Customer Serv	-				:Contact Chardon@inter	Pablo Charc

NONE

NONE

Certificate